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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,238	12/01/2003	Stephen H. Tsiarkezos	XY-014(XMD-012)	1928

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THE H.T. THAN LAW GROUP
WATERFRONT CENTER SUITE 560
1010 WISCONSIN AVENUE NW
WASHINGTON, DC 20007

EXAMINER	
BEFUMO, JENNA LEIGH	

ART UNIT	PAPER NUMBER
1771	

DATE MAILED: 12/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/725,238	TSIARKEZOS ET AL.	
	Examiner	Art Unit	
	Jenna-Leigh Befumo	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-51* is/are pending in the application.

4a) Of the above claim(s) *8-10,16,26-34,37-42 and 48-51* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,11-15,17-25,35,36 and 43-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1 – 7, 11 – 15, 17 – 25, 35 – 36, and 43 – 47 in the reply filed on September 19, 2005 is acknowledged.

2. Claims 8 – 10, 16, 26 – 34, 37 – 42, and 48 – 51 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention.

Double Patenting

3. Claim 35 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 2. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102/103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1 – 4, 11, 17 – 25, 29, 35, and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Zafiroglu (4,876,128).

Zafiroglu discloses a stitchbonded fabric with excellent insulating and stretchability characteristics and good laundering durability formed from a bonded fibrous layer which is stitchbonded with an elastic thread (abstract). The fibrous layer is a bonded nonwoven fabric having a basis weight between 25 and 150 g/m^2 formed from a carded and cross-lapped nonwoven fabric (column 3, lines 1 – 5). Zafiroglu teaches a preferred web comprises a blend of 75% polyethylene terephthalate fibers and 25% polyethylene terephthalate/ polyethylene isophthalate copolymer binder fibers (column 3, lines 10 – 13). The fabric can also be made with other types of binder including thermoplastic particulate binders, multipoint bonding and the like (column 3, lines 13 – 15). The fabric has a specific volume of at least 16 cm^3/g, and preferably about 20 to 25 cm^3/g, or a density of 0.4 to 0.5 g/cm^3 (column 2, lines 25 – 28). The finished product is extensible in both the stitching direction and the transverse direction (column 4, lines 37 – 40).

The limitation stating that the "nonwoven fabric is bonded with a binder applied to the outer surfaces of the substrate in a sufficiently uniform manner so that no areas greater than the spaces between the stitch insertion points are devoid of binder" includes a method limitation, examined based on the structure produced by process of applying a binder uniformly to the outer surface of the fabric. While the method discloses the binder is applied to the surface of the substrate, the binder is not required to remain on the surface of the fabric and in fact can be absorbed into the depth of the fabric. The binder is required to be uniformly spread throughout

the fabric so that there are no sections or gaps in the fabric which are devoid of binder. Further, this limitation is interpreted based on the specification which teaches that this feature can be produced by uniformly blending binder fibers into the nonwoven structure. Thus, Zafiroglu, which teaches a blended nonwoven comprising a mixture of 25% by weight of binder material blended into the nonwoven would have a sufficient amount of binder at the surface of the fabric.

Further, the limitation that the fabric "is stitch-bonded with yarns arranged in a stitch pattern that allows the stitch-bonded fabric to be stretched in at least one direction by a factor of about 2.5 to about 5.0 without forming local ruptures therein" is interpreted as requiring a stitch pattern which would allow the fabric to stretch, regardless of whether or not the fabric can be stretched to that degree. In other words, the applicant is not positively claiming that the fabrics has the desired stretch, but only that stitch pattern allows that amount of stretch. If the fabric does not stretch that amount due to the binder or structure of the nonwoven substrate, as long as the stitch pattern, would allow the stretch, then this limitation is met. Zafiroglu discloses that the stitching thread is stitched in various open patterns including zigzag tricot stitching or chain stitching (column 4, lines 16 – 30). Also, Zafiroglu discloses that elastic yarns or conventional stretch yarns are used as the stitching yarn (column 3, lines 40 – 55).

Although Zafiroglu does not explicitly teach the limitations stretchability of the stitch pattern, it is reasonable to presume that said limitations are inherent to the invention. Since the stitching patterns inherently have some degree of stretch, and Zafiroglu disclose using a stitching thread which stretches, then the stitching pattern disclosed by Zafiroglu would inherently have the claimed stretch. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594. In the alternative, the claimed limitation would obviously have been provided by the

process disclosed by Zafiroglu. Note *In re Best*, 195 USPQ 433, footnote 4 (CCPA 1977) as to the providing of this rejection under 35 USC 103 in addition to the rejection made above under 35 USC 102. Thus, claims 1, 3, 4, 11, 29, and 43 are anticipated.

With respect to claims 17 – 25, these claims include method steps related to the order in which a binder is applied, and patentable weight is given to the structure produced by these method limitations and not the method steps themselves. Since Zafiroglu discloses using different types of binder, the fibrous product will have the same structure regardless of when the binder is applied. Further, the point when the binder is activated will not significantly effect the structure of the final product and is given no patentable weight at this time. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same or an obvious variant from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the Applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983). Thus, claims 17 – 25 are anticipated.

Finally, since Zafiroglu discloses using similar types of binder material as the applicant, i.e., copolymers of polyesters, then the binder material disclosed by Zafiroglu would inherently have the claimed elasticity properties. Thus, claims 2 and 35 are anticipated.

Claim Rejections - 35 USC § 103

7. Claims 5 – 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zafiroglu '128 in view of Zafiroglu (5,187,952).

The features of Zafiroglu '128 have been set forth above. While Zafiroglu '128 discloses that nonwoven substrates can be used as the fibrous substrate, Zafiroglu '128 fails to teach using an entangled nonwoven fabric. Zafiroglu '952 is drawn to stretchable stitchbonded fabrics. Zafiroglu '952 discloses that various nonwoven substrates such as carded webs, airlaid webs, or entangled nonwoven fabrics can be used as the starting material for the stretchable stitchbonded fabric (column 3, lines 40 – 45). Thus, it would have been obvious to one of ordinary skill in the art to substitute an entangled fabric, as disclosed by Zafiroglu '952, for the nonwoven fabric starting material in the Zafiroglu '128 since the entangled fabric can be produced with binder fiber, or have binder material added to fibrous structure, and the entangled fabric would have the desired stretch properties in the finished product. Thus, claims 5 – 7 are rejected.

8. Claims 12 – 15, 36, and 44 – 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zafiroglu '128 in view of Wildeman (6,423,393).

The features of Zafirolgu '128 have been set forth above. While Zafiroglu discloses using binder material in the bonded starting material, Zafirolgu '128 fails to teach using bicomponent binder fibers. Wildeman is drawn to stitchbonded fabrics comprising binder material. Wildeman discloses that the binder fibers incorporated in the nonwoven fabric can be made entirely from synthetic low melting polymers, or the binder fibers can be multicomponent binder fibers such as fibers comprising a low melting sheath polymer and a higher melting core polymer (column 3, line 65 – column 4, lines 7). Thus, it would have been obvious to one having ordinary skill in the art to use multicomponent binder fibers, as taught by Wildeman,

instead of the monocomponent binder fibers disclosed by Zafiroglu '128, since Wildeman discloses that the different types of binder fibers are interchangeable. Thus, claim 12 is rejected.

Additionally, it would have been obvious to one of ordinary skill in the art that the multicomponent binder fibers could be in the form of side-by-side multicomponent fibers instead of sheath core configuration since both configurations will distribute binder material uniformly throughout the fabric. Thus, claim13 is rejected.

Further, when using the multicomponent fibers more of the individual fibers would include some binder component while still maintaining the same amount of binder. Thus, the multicomponent fibers would spread the binder material more uniformly mix the binder with the main type of fibers. Thus, it would have been obvious to one having ordinary skill in the art to use at least 40% or 80% multicomponent binder fibers per total number of fibers so that the binder material is more uniformly spread throughout the entire nonwoven structure. Thus, claims 14, 15, and 44 – 46 are rejected.

9. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zafiroglu '128.

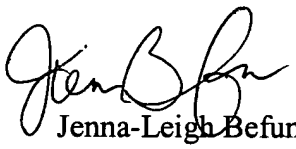
Finally, The features of Zafirolgu '128 have been set forth above. Zafiroglu '128 fails to teach using 2 to 10% by weight of binder. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to choose 2 – 10% binder, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955). Minimizing the amount of binder would lower the production costs by require less binder, as well as produce a softer fabric which is more flexible since the binder makes the fabric stiffer and rough to the touch. Thus, claim 36 is rejected.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna-Leigh Befumo whose telephone number is (571) 272-1472. The examiner can normally be reached on Monday - Friday (8:00 - 5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jenna-Leigh Befumo
November 28, 2005